

# Vermont Road Usage Charging Advisory Committee

# Agenda

- 1PM Welcome and introductions (*Chair, Michele Boomhower, VTrans*)
- 1:10 Presentation: Road Usage Charging in the United States (*Jim Whitty, CDM*)
- 1:40 Review scope of work and timeline (*Joe Segale, VTrans*)
- 1:50 Role of the Advisory Committee (*Jim Whitty, CDM*)
- 2:10 Guiding principles for Road Usage Charge system (*Action item*)
- 2:30 Stakeholder engagement
- 2:50 Administration: member input on meeting dates (*Chair and VTrans staff*)
- 2:55 Public comment
- 3PM Adjournment

# Road Usage Charging in the United States

# Challenges for Vermont's road funding system

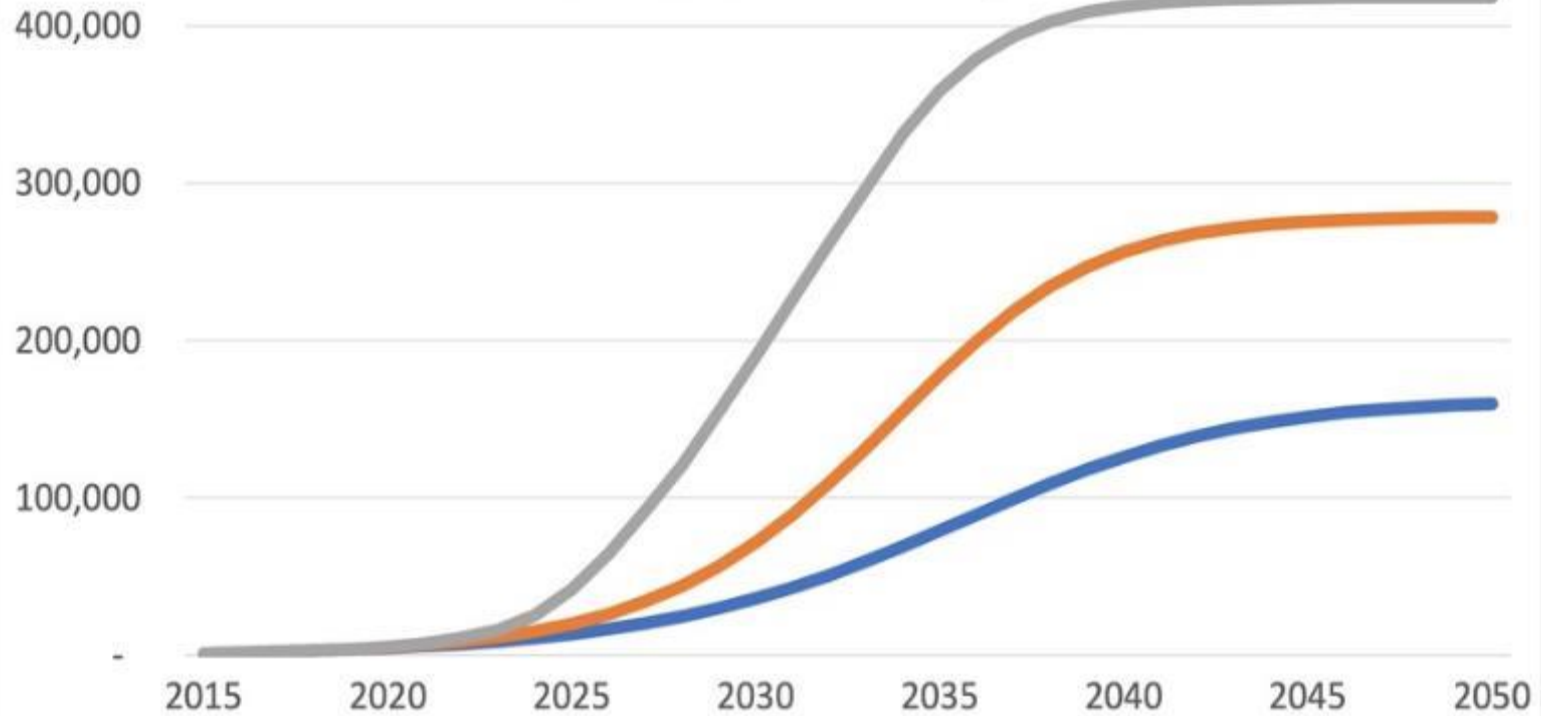
The situation:

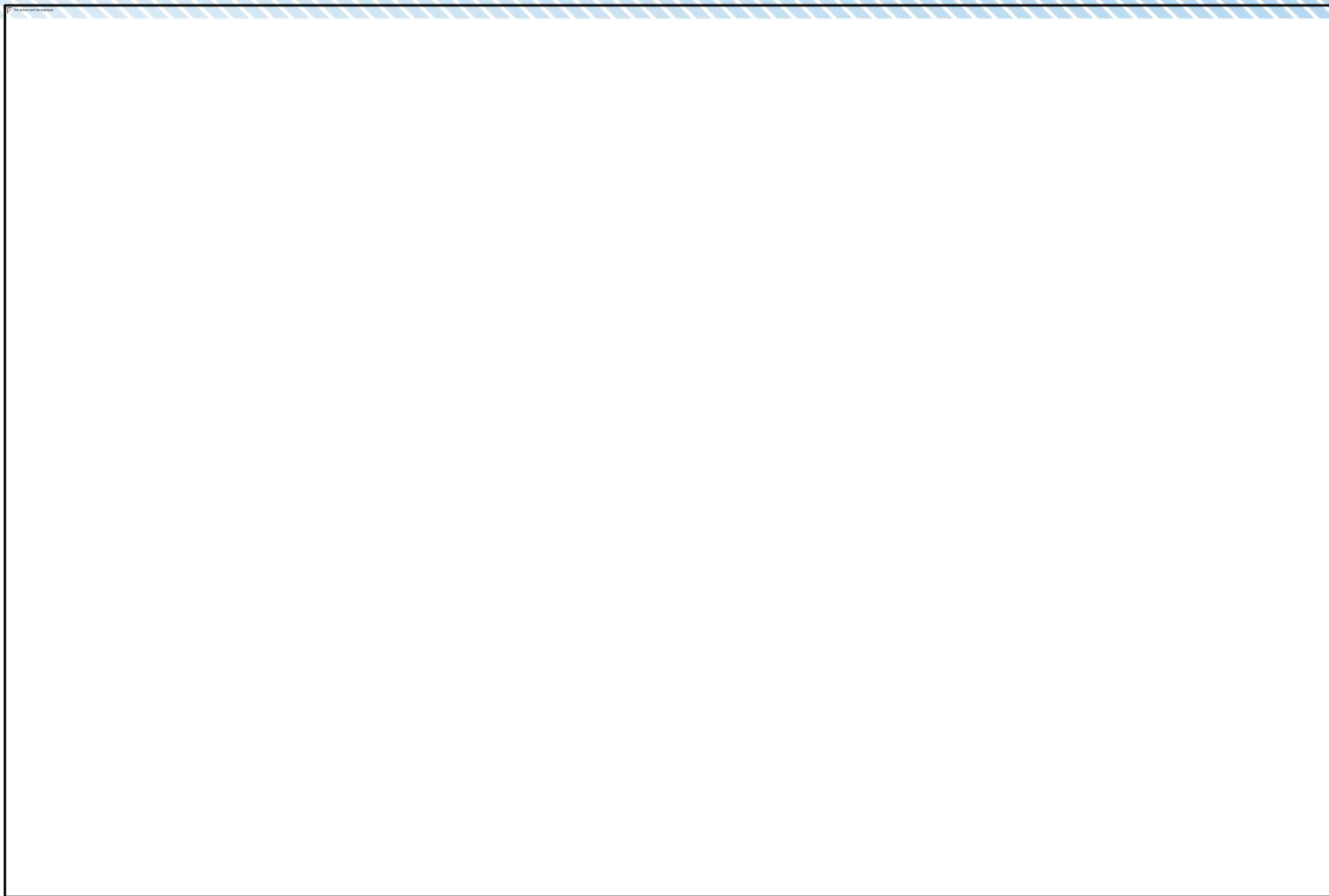
- An essential portion of Vermont's road funding consists of gas tax revenues
- Increases in vehicle fuel-efficiency has eroded, and will continue to erode, gas tax revenues
- An alternative to the gas tax will become necessary to maintain Vermont's transportation system

## Vermont EV Adoption Forecast

Source: VT Electric Investment Corp

Low Medium High





# What is a road usage charge?

A *road usage charge* is a tax or fee on vehicle use of the public road system.

Examples:

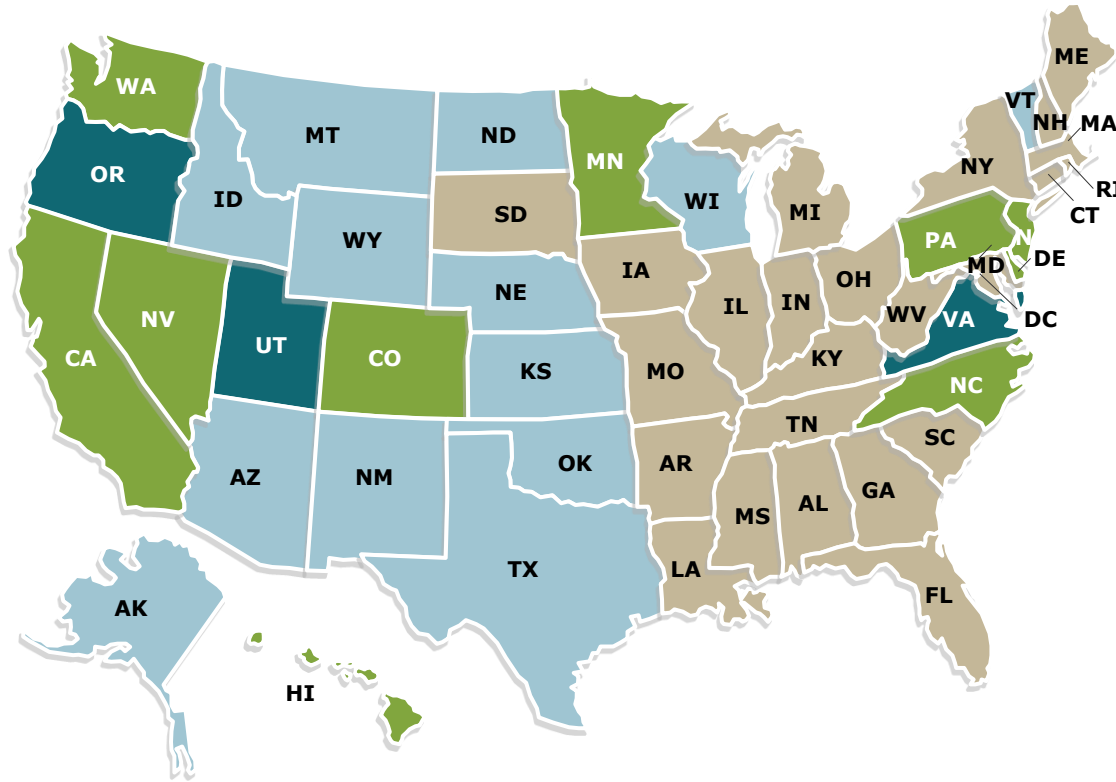
1. A mileage-based user fee (MBUF)
2. An annual flat fee
3. A per kilowatt hour fee

**Basis of MBUF:** A roadway consumption tax, with distance, stated in miles, as the measure of consumption.

An **annual flat fee** is collected at vehicle registration.

A **per kilowatt hour fee** is a volume-based fee on the amount of energy transferred to an electric vehicle over one hour.

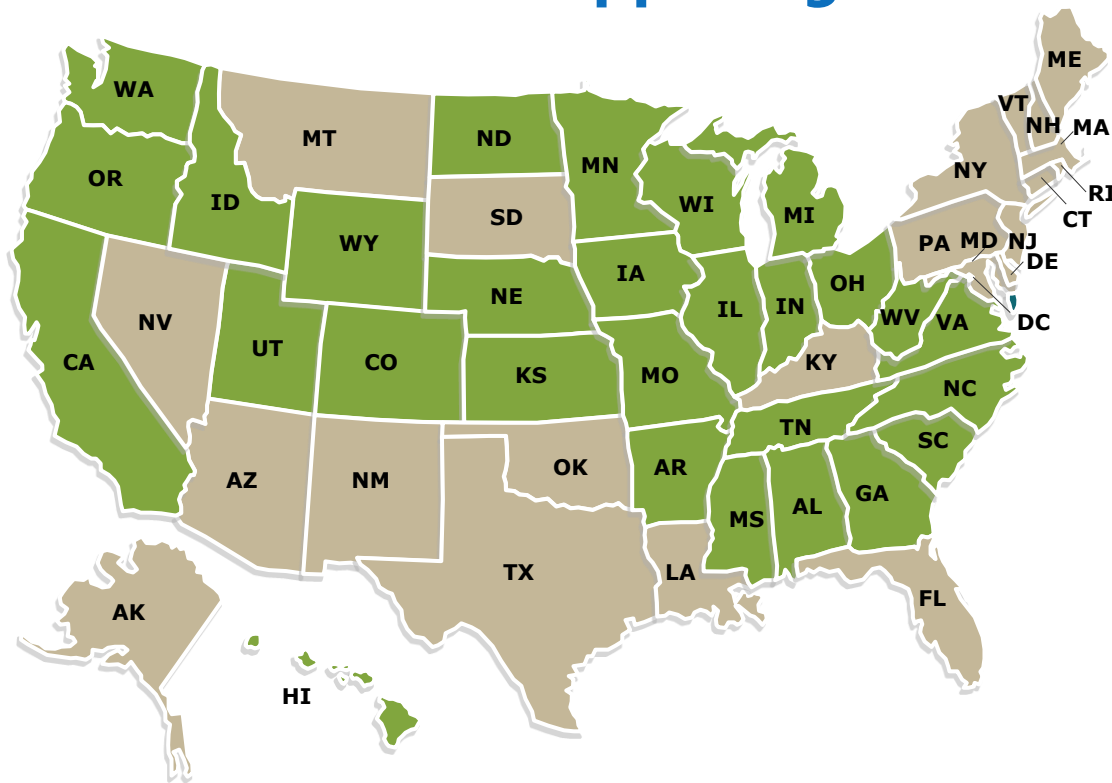
# Where are mileage-based user fees happening in US?



**3** Enacted programs    **13** Pilots/demonstrations    **13** Active research



# Where are annual flat fees happening in US

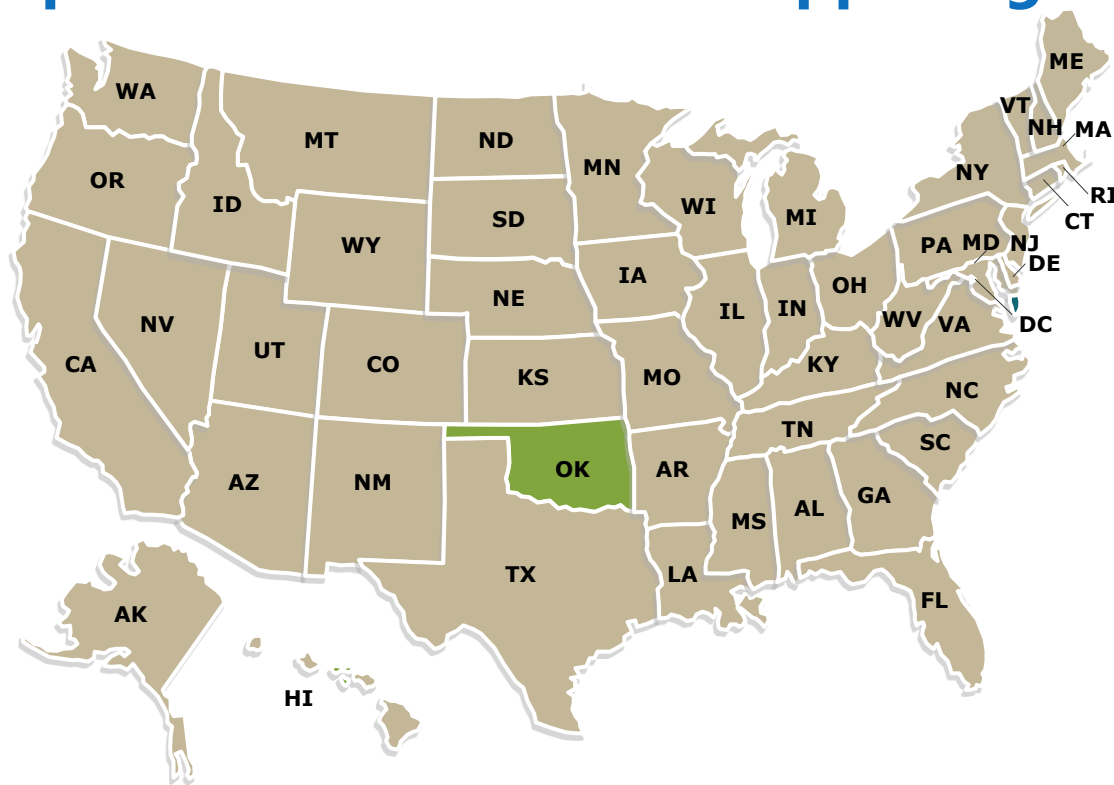


\*Per National Conference of State Legislatures 12/1/2020

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Enacted programs

# Where are per kilowatt hour fees happening in US



**1** Enacted program

# Collection of road usage charges

## **Mileage-based user fee**

- Manual reporting of odometer reading, and/or
- Automatic reporting of actual miles driven via technologies installed or embedded in vehicle.
- Payment made to government agency and/or private account manager.

## **Annual flat fee**

- Billed and collected by government agency as part of vehicle registration.

## **Per kilowatt hour fee**

- Assessed on electricity recharging at public charging stations.
- Collected and remitted by station owner/operator.

# MBUF collection systems in the United States

Three MBUF collection systems have undergone extensive system development.

As of 2021, only the odometer reading system and the account-based open system have proven viability.

## State odometer reading system



State annually collects odometer readings and issues invoice for MBUF

## Where tested

Washington,  
Hawaii

## Pay-at-the-pump system



MBUF collected along with fuel purchase at fuel pump

## Where tested

Oregon, California

## Account-based open system



State sets standards for private entities to collect MBUF periodically based on real-time mileage reporting

## Where applied

Oregon, Utah

# Vermont's Road Usage Charge Concept

Revise the current transportation revenue system as follows:

1. Owners of all-electric vehicles, plug-in electric vehicles (and possibly other high-mileage vehicles) registered in Vermont would have choice of paying either annual flat fee or mileage-based user fee;
2. Non-resident electric vehicle operators would pay a per kilowatt hour fee on electricity transfers at Vermont public charging stations.

**Flat fee** is a fixed amount per year, varied by vehicle type—AEV, PHEV, high-mileage ICEs—depending on relative fuel efficiencies. Estimated amount = \$120 for all-electric vehicles and \$71 for plug-in hybrid vehicles.

**Mileage-based user fees** are based on actual distance traveled by vehicles registered in Vermont. Estimated rate = between 1.3 and 1.5 cents per mile.

**Per kilowatt hour fees** are imposed on the amount of energy transferred per hour to non-resident electric vehicles driven on Vermont roads. Estimated rate = 3.4 cents per kilowatt hour.

# Objectives and Timeline

# RUC Implementation Plan Objectives

- Evaluate the feasibility of a Vermont Road Usage Charge with two major components:
  - (1) a choice of **flat fee** or **mileage-based** user fee for electric and hybrid-electric vehicles registered in Vermont, and
  - (2) a **per kilowatt hour fee** collected at public charging stations to capture road usage fees from non-resident electric vehicle travel on Vermont's highways;
- Gather feedback from stakeholders on a RUC system;
- Define the specifics of each component of a RUC system, determine rates, estimate costs, evaluate financial feasibility, identify administrative and organizational needs;
- If feasible, prepare an implementation plan for a road usage charge system;
- Present findings and recommendations in a final report.



# Timeline

- AC meetings
  - August 17, 2021
  - Late September 2021
  - Late October 2021
  - Early November 2021 in needed
- Draft legislation due: mid-November 2021
- Review of final report: first quarter of 2022

TABLE 1: STUDY TIMELINE

Task	Aug	Sept	Oct	Nov	Dec	Jan-March-22
Task 1: Stakeholder Engagement						
Task 2 & 3: System Definition						
Task 4: Fee Structure						
Task 5: Financial Analysis						
Task 6: Implementation Plan						
Task 7: Draft and Final Reports						

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# Role of advisory committee

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Recommend or endorse findings and policy decisions on road usage charging for the Governor and Legislature on

1. Policy and system design
2. Management and operational structure for implementation
3. Rate recommendations
4. Findings on operational feasibility and financial sustainability of road usage charging in Vermont
5. Whether the designed system is ready for implementation of road usage charging, or if the road usage charge system, or some component of it, should be piloted

# Policy, system and operations issues

# Policy and system design issues for MBUF

## Policy and system design

- Vehicle type eligibility: whether gasoline hybrids and other highly fuel-efficient vehicles should pay MBUF
- Eligible miles: all miles or only Vermont miles
- Manual vs. automatic reporting
- Choice of location-aware or non-location aware-mileage reporting method
- Protection of privacy and security of reported data
- Penalties for failure to pay

# Equity issues

- Equity by geography
  - Long distance driving
- Equity by vehicle type
  - Impact on electric vehicle sales
- Equity by income level
  - Relative burden of paying gas taxes or mileage-based user fees

# Management and operational structure for MBUF

Management and operational structure for implementation

- Government and/or private sector account management
- Choice of account manager
- Open system
- Open market for private sector account management

# Rate structure for MBUF

## Rate recommendations

- Factors for consideration
  - Revenue neutrality and fair share
  - Equitability
  - Revenue generation potential and financial sustainability
  - Do not harm electric vehicle uptake
  - Vehicle weight
  - Emissions profile
  - Vehicle owner income level
  - Cost responsibility
- Automatic rate adjustments
  - Rate pegged to gas tax rate
  - Inflation escalator

# Policy and system design issues for per kWh fee

## 1. Policy and system design

- Applicable public charging stations for per kWh fee
- Who pays per kWh fee?
- Exempting Vermont residents from per kWh fee
- Identify agency for enforcement of per kWh fee

## 2. Management and operational structure for implementation

- Identify agency to receive per kWh fee revenues

## 3. Rate setting

- Factors for consideration



# Guiding principles for system design

# Possible guiding principles for policy and system design

## ■ **Do No Harm**

- Revenue neutrality
- Sustained EV uptake

## ■ **Equitable & Fair**

- User pay system
- Users have choices
- Privacy and security data protected
- Equitable cost distribution (rural/urban, income)

## ■ **Feasible & Efficient**

- Ease of administration/minimal government burden
- Enforceable
- Simplicity of compliance and ease of use
- Accurate and system performance

## ■ **Transparent and Accountable**

- Open system
- Open to competing vendors
- Accountable oversight

## ■ **Adaptive for the future**

- Integration with other state policies
- Interoperability with other state systems
- Flexible, secure, and scalable

# Stakeholder and outreach plan

# [Slides prepared by RSG]